ORDER NO. ACED9902192

Service Manual

AUTOMOTIVE CONSUMER ELECTRONICS

CQ-R155EW

High-Power Cassette Player / Receiver with Changer Control

Specifications*

General

Power supply	: 12V DC (11V-16V) Test Voltage 14.4V, Negative ground
Maximum Power Output	: 30W × 4 channels (at 4Ω)
Power Output	: 15W × 4 (DIN45 324, at 4Ω)
Tone Action	: Bass ; ±12 dB at 100Hz Treble ; ±12 dB at 10kHz
Current Consumption	: Less than 2.5 A (tape mode, 0.5W 4-speaker)
Speaker Impedance	: 4 - 8 Ω

FM Stereo Radio

Frequency Range	: 87.5 - 108.0 MHz
Usable Sensitivity	: 6 dB/ μV (S/N 30 dB)
Stereo Separation	: 35 dB (at 1kHz)

MW Radio

Frequency Range	: 531 - 1,602 kHz
Usable Sensitivity	: 28 dB/μV (S/N 20 dB)

Cassette Player

Reproduction System	: 4 - track, 2-program stereo
Tape Speed	: 4.76cm/sec
FF/REW Time	: Less than 200 sec (C-60)
Frequency Response	: 35 - 14,000Hz
Wow and Flutter	: 0.12 % (WRMS)
Signal/Noise Ratio	: 52 dB

Dimensions** (W × H × D)	: 178 × 50 × 150 (mm)
Weight**	: 1.6 kg

* Specifications and the design are subject to possible modification without notice due to improvements.
** Dimensions and weight shown are approximate.
*** Above specifications comply with EIA standards.

Panasonic®

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⚠WARNING

This service information is designed for experienced repair technicians only and is not designed for use by the general public. It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product.
Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to service or repair the products dealt with in this service information by anyone else could result in serious injury or death.

CONTENTS

FEATURES 1
REPLACING THE FUSE 1
MAINTENANCE 1
RADIO BLOCK ALIGNMENT 1
DIMENSIONS 1

<OPERATING INSTRUCTIONS>
Power and Sound Controls 2
Radio Basics 2
Cassette Tape Player Basics 3
CD Changer Basics 3
Clock Basics 4
Anti-Theft System 4
Installation ..... 4 to 5
Electrical Connection 5
Speaker Connections 5
Troubleshooting 6

WIRING CONNECTION 7
BLOCK DIAGRAM 8
WIRING DIAGRAM (Display/Tape Block) 9
WIRING DIAGRAM (Main Block) 10
SCHEMATIC DIAGRAM (Display Block) 11
SCHEMATIC DIAGRAM (Main Block) 12
TERMINALS DESCRIPTION 13
PACKAGE AND IC BLOCK DIAGRAM 14
REPLACEMENT PARTS LIST (UNIT) ..... 15 to 17
EXPLODED VIEW (Unit) 18
REPLACEMENT PARTS LIST (Tape Player Parts) 19
EXPLODED VIEW (Tape Deck) 20

FEATURES

- PLL (Phase Locked Loop) Synthesized Tuning
- 1DIN Size Body with Cassette Player, AM/FM Tuner, Power AMP (30W×4)
- 18-FM , 6-AM stations preset
- Auto preset and scan function
- CD Changer Control function

REPLACING THE FUSE

Be sure to use a fuse of the specified rating (10A) when replacing a blown fuse. Fuses with higher capacity ratings, use of any substitute, or connection without a fuse may result in a fire hazard or damage to the unit.

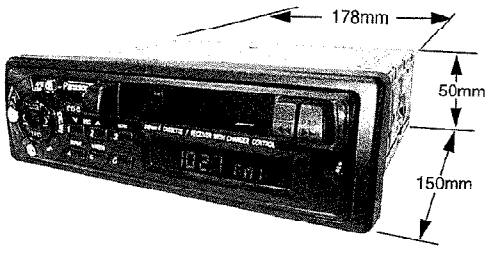
MAINTENANCE

Your product is designed and manufactured to ensure a minimum of maintenance. Use a soft cloth for routine exterior cleaning. Never use benzine, thinner or other solvent.

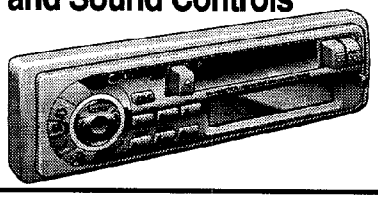
RADIO ALIGNMENT

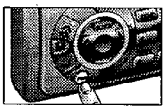
Do not align the AM/FM package blocks. When the package block is necessary, it will be supplied already aligned at the factory.

DIMENSIONS



Power and Sound Controls





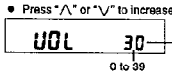
Power

If the car is not already running, turn the key in the ignition until the accessory indicator lights. Press PWR to switch on the power.

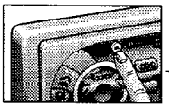
Note:
When a cassette is inserted with all power connected, the unit power will automatically turn on and tape loading begins and plays.

Volume

- Press "/\" or "\/" to increase or decrease volume.

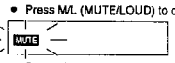


- Press "/\" or "\/" for more than 0.5 second to change numeric levels on the display rapidly.

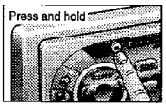


Mute

- Press M/L (MUTE/LOUD) to decrease Volume level.

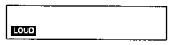


- Press M/L (MUTE/LOUD) again to cancel.



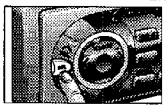
Tone Enhancement

- Press and hold M/L (MUTE/LOUD) for more than 2 seconds to enhance bass and treble tones when listening at low or medium volume.



- Press and hold M/L (MUTE/LOUD) for more than 2 seconds again to deactivate when listening at higher volumes.

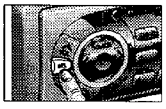
Note: This unit is equipped with an anti-volume-blast circuit which serves as an automatic volume level adjuster so that you will not be deafened with sudden loud volume.
This system operates as follows. When PWR is switched on, the volume level is low. After that, the volume level gradually returns to the level as the same as the one before turning off.
Anti-volume-blast circuit is not effective when volume level is lower than position 20 at the display.



Changing Audio Modes

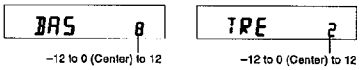
Press SEL to switch the audio mode as follows.

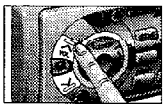
VOL (Volume) → BAS (Bass) → TRE (Treble) → BAL (Balance) → FAd (Fader) → VOL (Volume)



Bass and Treble

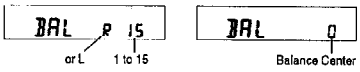
Press SEL to select the BASS (TREBLE) mode. Press "/\" or "\/" to increase or decrease the bass/treble response.





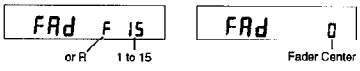
Balance

Press SEL to select the BALANCE mode. Press "/\" or "\/" to shift the sound volume to the right or left speakers.



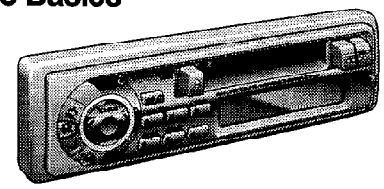
Fader

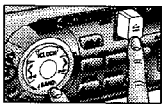
Press SEL to select the FADER mode. Press "/\" or "\/" to shift the sound volume to the front or rear speakers.



Note: When a control mode (BAS/TRE/BAL/FAd) is selected but no operation is made within 5 seconds (2 seconds at volume mode), the display will return to the normal operation (Radio, Cassette, etc.) mode. In such a case, press SEL again to select the next control mode.

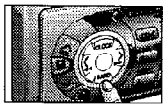
Radio Basics





Change to the Tuner Mode

① In case of Tape mode ..... Eject a tape.
② In case of CD Changer mode ..... Press BAND.

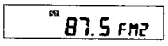


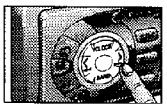
Selecting a Band

Press BAND to select the bands as follows.

FM1 → FM2 → FM3 → AM

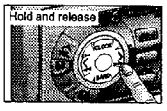
"ST" indicator lights if the station is broadcasting in stereo.





Manual Tuning

Press "<" or ">" to move to a higher or lower frequency.



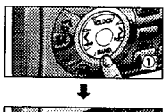
Seek Tuning

Press and hold "<" or ">" for more than 0.5 second, then release. The radio automatically stops on the next station.

Preset Station Setting

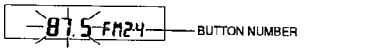
Up to 24 stations can be preset in the station memory as follows;

FM1	FM2	FM3	AM
6 stations	6 stations	6 stations	6 stations

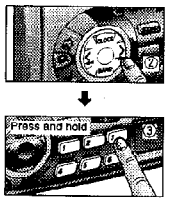


Manual Station Preset

① Press BAND to select a desired band.
② Use manual or seek tuning to find a station that you want to program into memory.
③ Press and hold one of the station selector buttons 1 through 6 until the display blinks. The memory is now set for that button on the band you have selected.
Repeat the process to set other stations for the FM1 to AM bands.

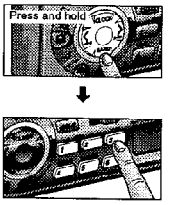


Note: You can change the memory setting by repeating the above procedure.



Tuning in a Preset Station

Press any of the buttons 1 through 6 to tune in the station preset by the above steps ① to ③.



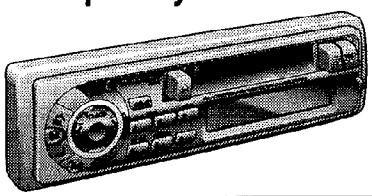
Auto Preset Memory

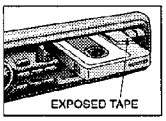
Select a band, and press and hold BAND (APM) for more than 2 seconds.

- The 6 strongest available stations will be automatically set in memory on preset buttons 1 through 6.
- Once set, the preset stations are sequentially scanned for 5 seconds.
- Press the appropriate preset button for the station you want to hear.

CAUTION: For safety reasons, do not attempt to program while driving.

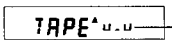
Cassette Tape Player Basics

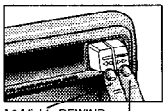




Loading a Cassette

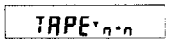
Gently insert a cassette with the exposed tape facing to the right until the mechanism captures it, and playback starts.



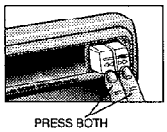


Rewind and Fast Forward

When the program indicator ▲ light, press ◀◀ to rewind or press ▶▶ to fast forward the tape.
When the program indicator ▼ light, press ◀◀ to fast forward or press ▶▶ to rewind the tape.

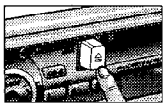


To stop rewind or fast forward, gently press the button that is not in use.
The tape will resume playing from that position.



Changing Sides

Press ◀◀ (REW) and ▶▶ (FF) at the same time to switch to the program on the other side of the tape.
The display changes to indicate which program is playing.



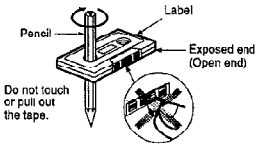
Stopping and Ejecting the Tape

Once inserted into the unit, your tape will play continuously until you eject it.
If you press ⏏ (EJECT), the unit ejects the tape and returns to radio operation.
When you stop the car engine, the tape will stop but not be ejected.

Notes:
- You can not change to CD Changer mode or Radio mode while tape playing. If you want to change to CD Changer mode or Radio mode, eject the tape.
- Always remove the cassette when you stop using the cassette player. This will prolong the life of your tape.

Notes on Cassette Tapes

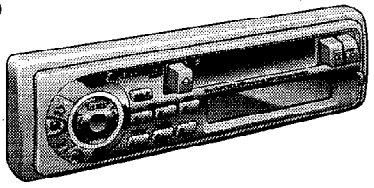
Tape Slack:
Use a pencil or similar object to take up the slack as shown. If a loose tape is used, this may result in the tape becoming tangled in the rotating parts of the unit.

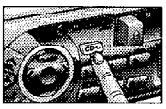


CAUTON:
To maintain your cassette player in top condition, avoid using tapes that are longer than 90 minutes (C-90).

CD Changer Basics

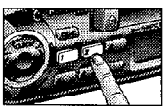
Note:
CD changer functions are applicable to units with optional CD changer unit. (sold separately)





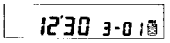
To Changer Mode

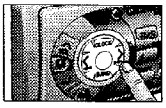
While a disc magazine inserted in the CD changer, press CD/C.
Play starts from first track.



Selecting a Disc

Press "DISC∧" or "∨DISC" to select discs in ascending or descending order.



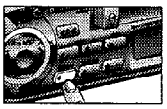


Selecting a Track

Press "▶▶" once to go to the next track. Press repeatedly to step forward through all the tracks.
Press "◀◀" once to play from the beginning of the current track. Press twice to play the previous track. Press repeatedly to step backward through all the tracks.

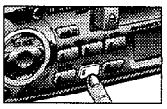
Searching a Track

Press and hold "▶▶" or "◀◀" for more than 0.5 second to activate fast forward or reverse through a track. Release "▶▶" or "◀◀" to resume the normal CD play from that position.



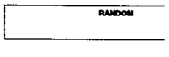
Repeating a Track

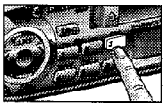
- Press 4 (REPEAT) to repeat the current selection. REPEAT indicator lights.
- The current selection continues to repeat until you press 4 (REPEAT) again.



Random Selection

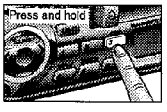
- Press 5 (RANDOM) to random selection of music is played from all available CDs. RANDOM indicator lights.
- To turn it off, press 5 (RANDOM) again.





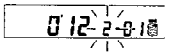
Scanning Tracks

- Press 3 (SCAN). The track number blinks and the first 10 seconds of each track on the discs play in sequence.
- To stop scanning and continue with the current track, press 3 (SCAN) again.



Scanning Discs

Press and hold 3 (SCAN) for more than 2 seconds. The 1st track of all the discs in the magazine is played for 10 seconds each. Also, Disc Number blinks at the same time. To stop the current play of the disc scanning, press and hold 3 (SCAN) for more than 2 seconds again.

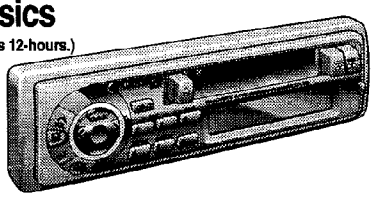


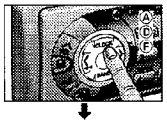
❑ Error Display Messages

	Displays when the compact disc is dirty or upside down. Selects the next available compact disc.		Displays when the compact disc stops operating for some reason. Please turn off the car engine (ACC off) and remove the fuse from yellow lead for 3 minutes. Then reinstall the fuse.
	Displays when compact disc is scratched. Selects next available compact disc.		Displays when there is no disc in the magazine.

Clock Basics

(The clock system is 12-hours.)





Initial Time Setting

Ⓐ Press CLOCK, "AdJ" is displayed.

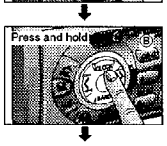
Ⓑ Press and hold CLOCK again for more than 2 seconds. "12" blinks indicating the time setting mode is activated.

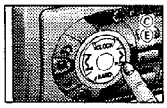
Ⓒ To set hours, press "<" or ">".

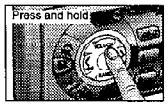
Ⓓ Press again CLOCK for minute setting.

Ⓔ To set minutes, press "<" or ">". Hold "<" or ">" to change numbers rapidly.

Ⓕ When you have set the time, press CLOCK.

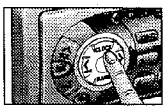






Resetting the Time

When you want to reset the time, press and hold CLOCK for more than 2 seconds to activate the time setting mode. Then, repeat step Ⓒ to Ⓕ above.



Selecting the Clock Display

Press CLOCK for clock display.
Press CLOCK once again, the current audio display mode resumes.

Anti-Theft System

This unit is equipped with a removable face plate. By removing this face plate, the radio becomes totally inoperable. The security indicator will blink.

To Remove the Removable Face Plate

① Switch off the power.
② Press the release button (⏏).
The removable face plate will be released.

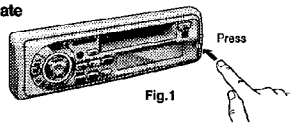


Fig.1

③ Remove the removable face plate by pulling on the right side of the unit. Place the removable face plate in a supplied case.

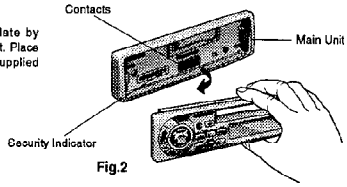


Fig.2

④ As shown in Fig.3, insert the removable face plate with the arrow pointing toward the removable face plate case until you hear a "click". Keep the removable face plate in the case. Then, you can bring the plate safely.

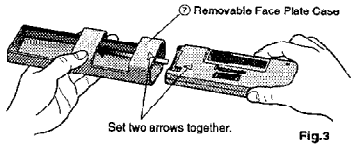


Fig.3

To Install the Removable Face Plate

① Slide the left side of the removable face plate in place
② Press the right end of removable face plate until "click" is heard.

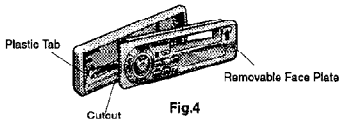


Fig.4

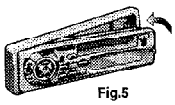


Fig.5

Caution:
1. Before removing the removable face plate, make sure the power is off.
2. This removable face plate is not water-proof. Do not expose it to water or excessive moisture.
3. Do not remove the removable face plate, while driving your car.
4. Do not place the removable face plate on the dashboard or nearby areas where the temperature rises to high levels.
5. Do not touch the contacts on the removable face plate or on the main unit, since this may result in poor electrical contacts.
6. If dirt or other foreign substances get on the contacts, wipe them with a clean, dry cloth.

Installation

Preparation

- Before installation check the radio operation with antenna and speakers.
- Disconnect the cable from the negative (–) battery terminal (see caution below).
- Unit should be installed in a horizontal position with the front end up at a convenient angle, but not more than 30°.

Caution:

For installation to cars with trip or navigational computers, all electronic memory settings previously registered in the computer will be lost when the battery terminal is disconnected. For this type of car, battery could not be disconnected. Therefore, extra care should be taken to prevent short circuiting.

In-dash Installation

Installation Opening

In-dash installation can be done if the car's dashboard has an opening for this unit as shown in Fig. 1. The car's dashboard should have a thickness of 4.5 mm - 5 mm in order to make the installation of the unit.

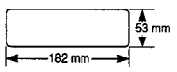


Fig. 1

Installation Precautions

This equipment, if possible, should be installed by a professional installer.

In case of difficulty, please consult your nearest authorized Panasonic Service Center.

1. This system is to be used only in a 12-volt, DC battery system (car) with negative ground.
2. Follow the electrical connection on page 18 carefully. Failure to do so may result in damage to the unit.
3. Connect the power lead after other connections are made.
4. Be sure to connect the YELLOW lead to the positive terminal (+) of the battery or fuse block (BAT) terminal.
5. Insulate all exposed wires to prevent short circuiting.
6. Secure all loose wires after installing the unit.
7. Please carefully read the operating and installation instructions of the respective equipment before connecting it to this unit.

Supplied Hardwares

No.	Item	Diagram	Q'ty
①	Mounting Collar		1
②	Hex. Nut (5 mmϕ)		1
③	Rear Support Strap		1
④	Tapping Screw (5 mmϕ x 16 mm)		1

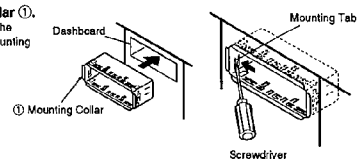
No.	Item	Diagram	Q'ty
⑤	Mounting Bolt (5 mmϕ)		1
⑥	Power Connector		1
⑦	Removable Face Plate Case		1
⑧	Dismounting Plate		1

Installation Procedures

Note: Disconnect the cable from the negative (–) battery terminal.

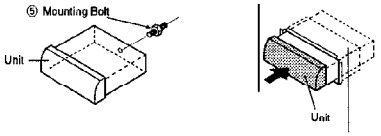
1. Secure the Mounting Collar ①.

Insert Mounting Collar ① into the car's dashboard, and bend mounting tabs out with a screwdriver.



2. Secure the rear of the unit.

a) Check the electrical connection by referring to this operating instructions.
b) Connect the Mounting Bolt ⑤, using a suitable wrench.
c) Insert the unit into Mounting Collar ① and push it in until "click" is heard.



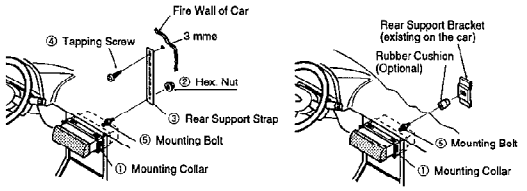
d) Secure the rear of the unit to the car by either of the two recommended methods as follows.

■ Using the Rear Support Strap ③

Affix one end of the Rear Support Strap ③ to the rear of the unit, and the other end to the Fire Wall of Car, or some other metallic area.

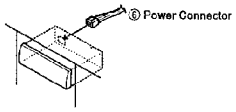
■ Using the Rubber Cushion (Optional)

(If there is an existing Rear Support Bracket on the Fire Wall of Car.)
Cover Mounting Bolt ⑤ on the rear of the unit with Rubber Cushion (Optional), and mount it into the existing Rear Support Bracket.



Installation continued

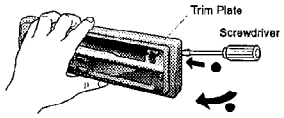
3. Insert the Power Connector ⑥ to the unit.



4. After installation reconnect the negative (–) battery terminal.

To Remove the Unit

a) Remove the trim plate with a screwdriver as shown in the figure.



b) Pull out the unit while pushing the two lock levers using Dismounting Plate ⑧ as follows.(Fig 1, 2).
c) Remove the unit pulling with both hands. (Fig 3).

Fig 1

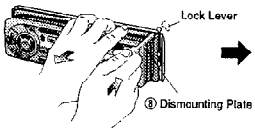


Fig 2

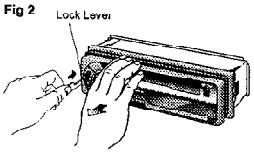
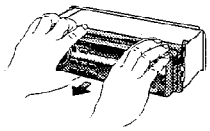


Fig 3

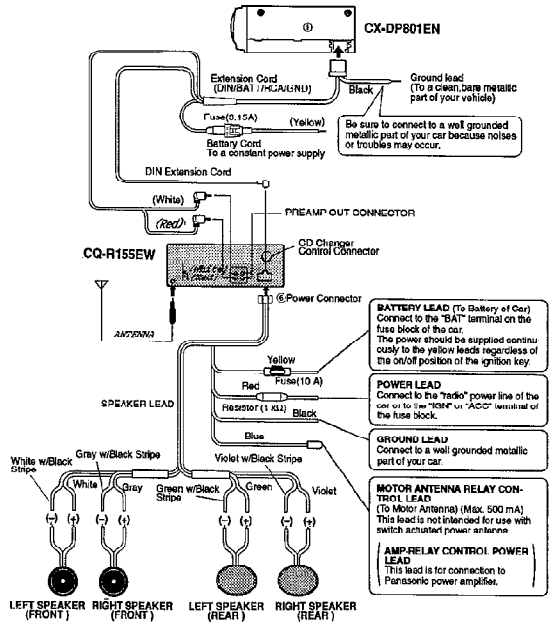


Note: Do not lose the Dismounting Plate. It will be needed to remove the unit from the car's dashboard.

Electrical Connection

- This unit can be connected to an optional CD changer (CX-DP801EN). For details consult your nearest Panasonic dealers.
- For connection to a CD changer, refer to the operating instructions of the CD Changer (CX-DP801EN).

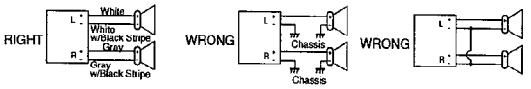
Caution:
- To prevent damage to the unit, be sure to follow the connection diagram below.
- Remove the covering of the leads about 5 mm long from their end before connecting.
- Do not insert the power connector into the unit until the wiring is completed.
- Be sure to insulate any exposed wires from a possible short-circuit from the car chassis. Bundle all cables and keep cable terminals free from touching any metal parts.


CX-DP801EN
Extension Cord (DIN/BAT / RCA/ENU)
Black
Ground lead (To a clean,bare metallic part of your vehicle)
Fuse(0.15A)
(Yellow)
Be sure to connect to a well grounded metallic part of your car because noises or troubles may occur.
Battery Cord To a constant power supply
DIN Extension Cord
(White)
(Red)
PREAMP OUT CONNECTOR
CQ-R155EW
CD Changer Control Connector
⑥Power Connector
ANTENNA
BATTERY LEAD (To Battery of Car) Connect to the "BAT" terminal on the fuse block of the car. The power should be supplied continuously to the yellow leads regardless of the on/off position of the ignition key.
Yellow
Fuse(10 A)
Red
POWER LEAD Connect to the "radio" power line of the car or to the "IGN" or "ACC" terminal of the fuse block.
SPEAKER LEAD
Resistor(1 kΩ)
Black
Blue
GROUND LEAD Connect to a well grounded metallic part of your car.
White w/Black Stripe
Gray w/Black Stripe
Violet w/Black Stripe
White
Gray
Green w/Black Stripe
Green
Violet
MOTOR ANTENNA RELAY CONTROL LEAD (To Motor Antenna) (Max. 500 mA) This lead is not intended for use with switch actuated power antenna.
AMP.RELAY CONTROL POWER LEAD This lead is for connection to Panasonic power amplifier.
LEFT SPEAKER (FRONT)
RIGHT SPEAKER (FRONT)
LEFT SPEAKER (REAR)
RIGHT SPEAKER (REAR)

Speaker Connections

Caution:
1. Use ungrounded speakers only.
2. The speakers to be used with this unit should be able to handle more than 30 W of audio power. If an optional amplifier is used, the speakers should be able to handle the maximum output power of the amplifier. Use of speakers with small input ratings can cause damage to the speakers.
3. The speaker impedance should be 4 - 8 ohms. If the impedance is too large or too small, it affects the output and may cause damage to the speakers or this unit.
4. Do not use 3-wire type speaker system having a common earth lead. Never connect the speaker cord to the body of the car. This unit uses the BTCL circuit, so each speaker should be connected separately using parallel vinyl insulated cords.
5. The speaker cords and the power amplifier unit should be kept away (about 30 cm apart) from the antenna and antenna extension cord.
6. Follow the connection diagram below carefully. Failure to do so may cause damage to both unit and speakers.

- **Unit will be damaged if speakers (Front, Rear) are not connected properly.**



- **Do not connect more than one speaker to one set of speaker leads.**

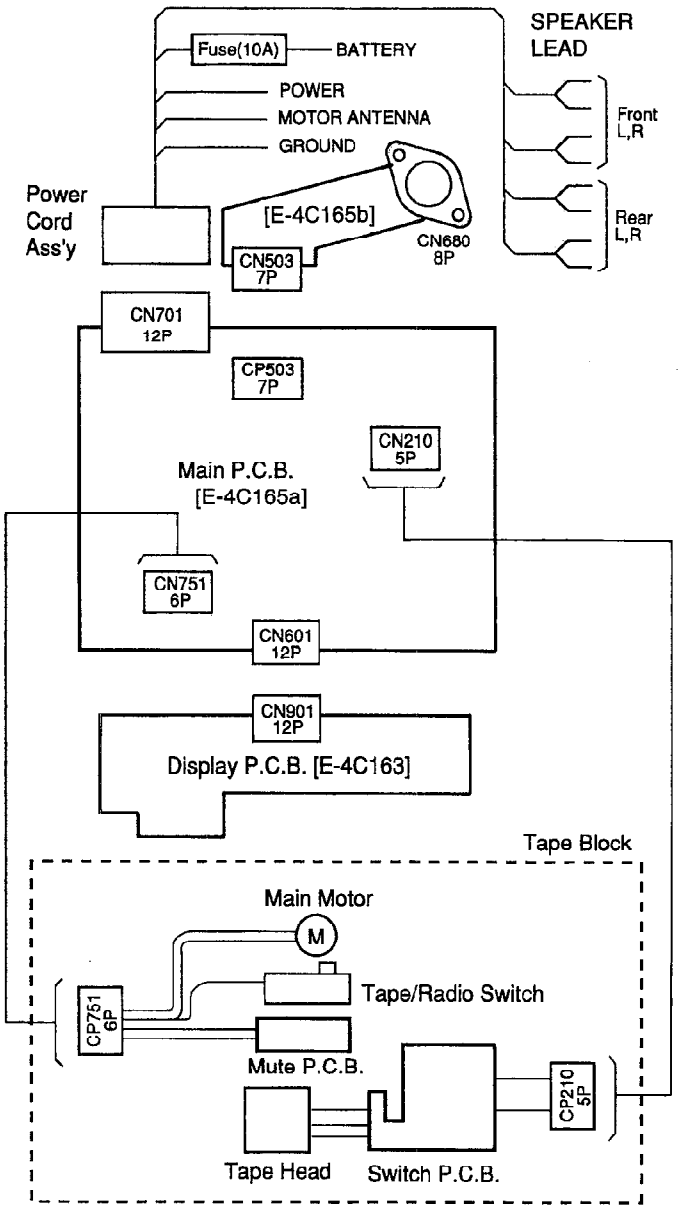
Troubleshooting

❑ Troubleshooting Tips

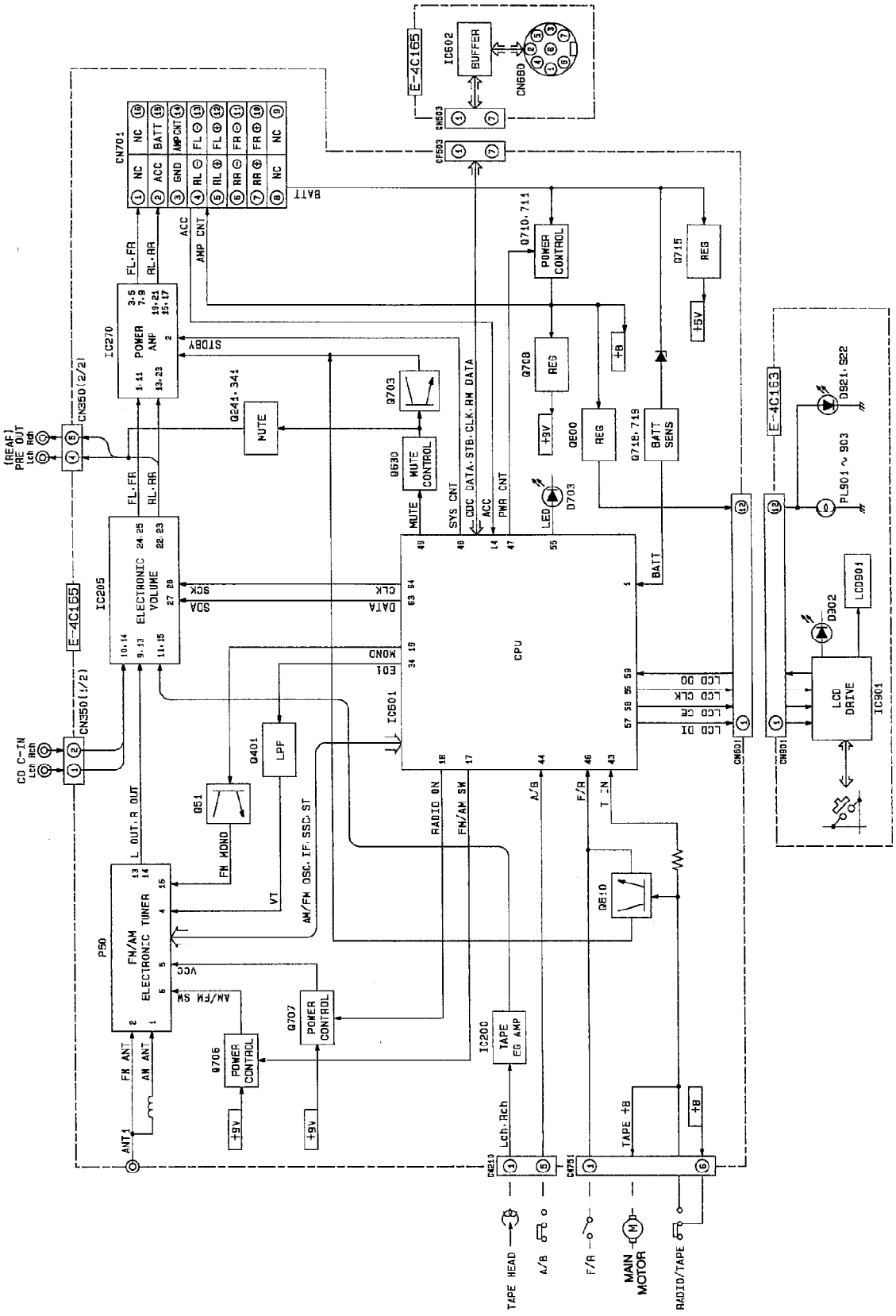
PROBLEM	POSSIBLE CAUSE	PROBABLE SOLUTION
Unit won't turn on.	Dead vehicle battery. Ignition not on. Bad power line connection. Fuse burnad out.	Charge vehicle battery. Turn ignition to On or Accessory. Check connections. Replace fuse.
Radio has static.	Antanna not hooked up. Close to high power lines.	Hook up antenna. Move away from high power lines.
Radio memory buttons don't work.	Not holding buttons down long enough.	Press and hold buttons for more than 2 seconds.
Tape sound quality is poor.	Heads are dirty. Poor quality tape.	Clean heads. (Ask a service representative for advice.) Use better quality tape.
Tape won't change programs.	Not pressing "▶▶ (FF)" and "◀◀ (REW)" buttons at the same time.	Press "▶▶ (FF)" and "◀◀ (REW)" buttons at the same time.
CD Changer won't operate.	Unit not properly connected. Unit not switched into CD Change mode. No CDs in the magazine.	Check connections. Press MODE to switch to the CD Changer mode. Check disc magazine.
CD Change won't play a specific disc.	Disc loaded upside down. Disc damaged. Disc not loaded in magazine.	Reload disc properly. Check disc for scratches, chips. Check disc magazine.

20

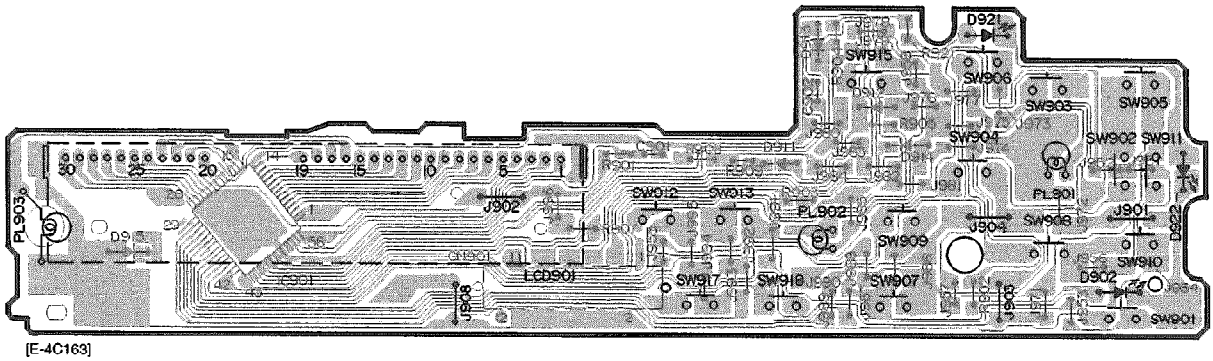
WIRING CONNECTION



BLOCK DIAGRAM MODEL CQ-R155EW

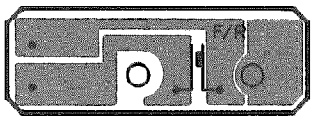


WIRING DIAGRAM(Display Block) MODEL CQ-R155EW

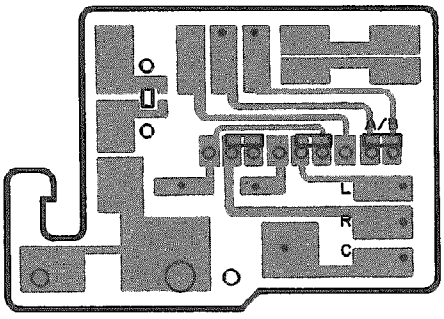


[E-4C163]

WIRING DIAGRAM (Tape Block) MODEL CQ-R155EW

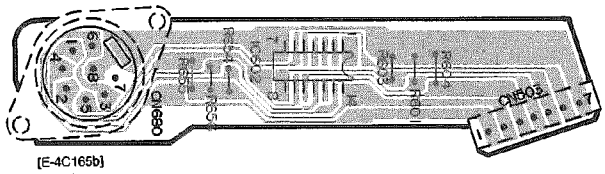


Mute P.C.B.

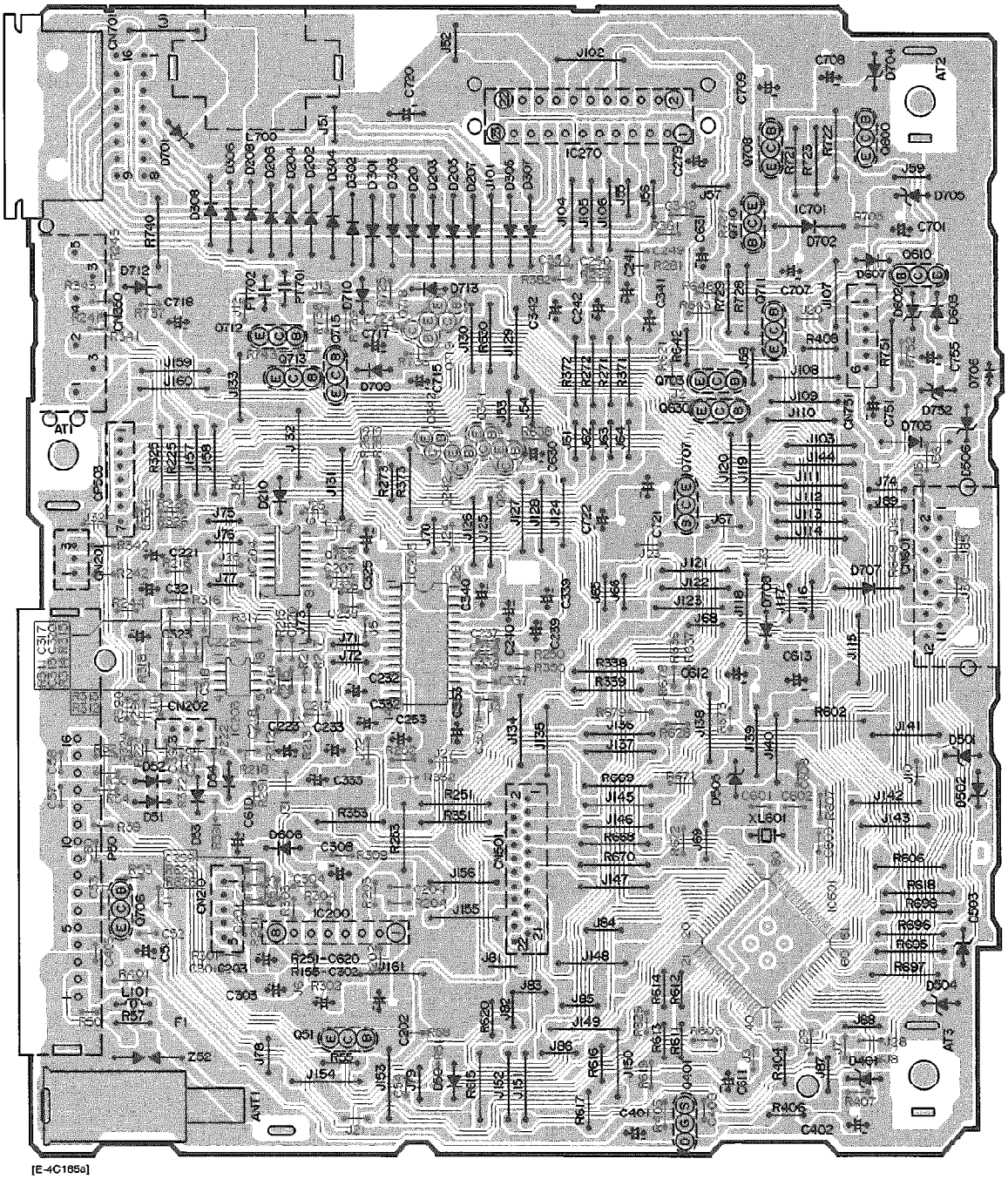


Switch P.C.B.

WIRING DIAGRAM(Main Block) MODEL CQ-R155EW

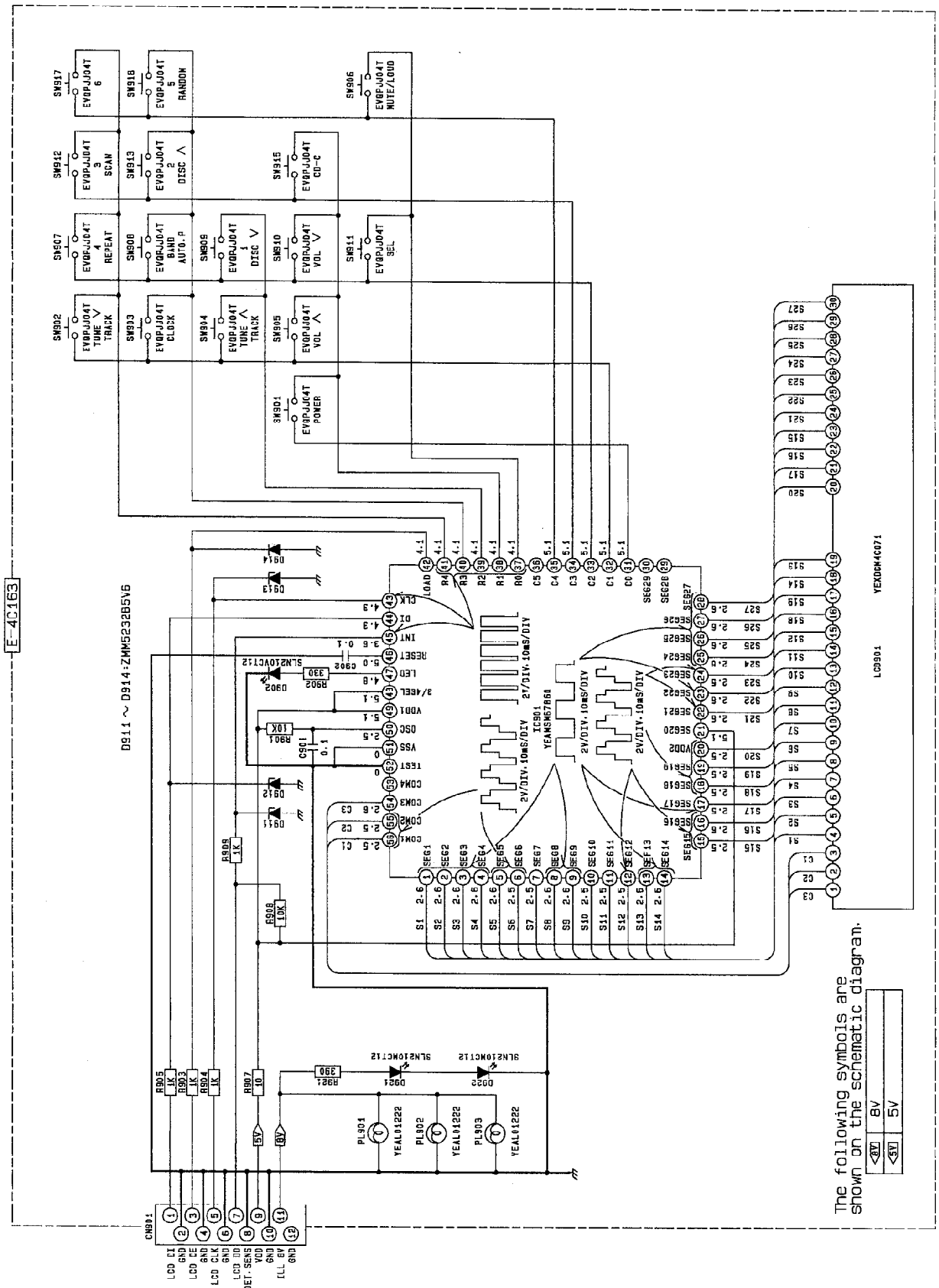


[E-4C165b]

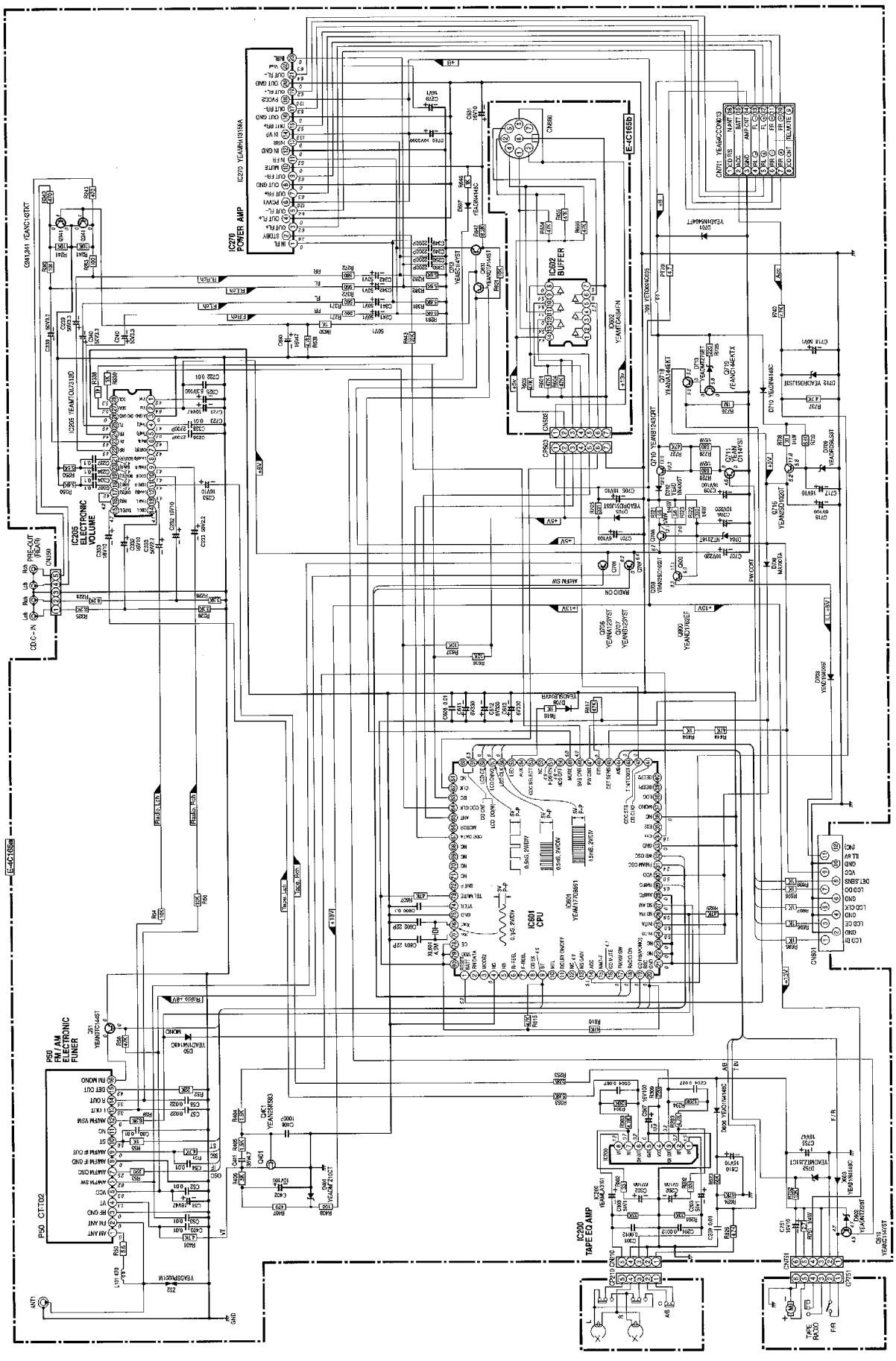


[E-4C165a]

SCHEMATIC DIAGRAM(Display Block) MODEL CQ-R155EW



SCHEMATIC DIAGRAM(Main Block) MODEL CQ-R155EW



TERMINALS DESCRIPTION

■ IC601 YEAM17708591

Pin No.	Name	Description	I/O	Vol. (V) AM	FM	TAPE
1	BATT	Battery Detection	I	5.1	5.1	5.1
2	REM DATA (NC)	—	—	—	—	—
3	MODE2 (NC)	—	—	—	—	—
4	(NC)	(Connect to Ground)	—	—	—	—
5	MS (NC)	—	—	—	—	—
6	R-REEL (NC)	—	—	—	—	—
7	F-REEL (NC)	—	—	—	—	—
8	CD EX (NC)	—	—	—	—	—
9	ST	Stereo Signal Input	I	4.6	4.6	0.8
10	MTL (NC)	—	—	—	—	—
11	DOLBY ON/OFF (NC)	—	—	—	—	—
12	(NC)	—	—	—	—	—
13	MS GAIN (NC)	—	—	—	—	—
14	ACC	ACC Detection	I	5.1	5.1	5.1
15	MMT-F (NC)	—	—	—	—	—
16	CD MUTE (NC)	—	—	—	—	—
17	FM/AM SW	FM/AM Select Switch	O	8.1	0	0
18	RADIO ON	AM/FM Tuner ON	O	0	0	8.4
19	MONO	FM MONO SW	O	7.1	7.1	7.1
20	SSC	FM /AM SSC Control	O	0	0	0
21	GND	Ground	—	0	0	0
22	(NC)	(Connect to Ground)	—	—	—	—
23	(NC)	(Connect to Ground)	—	—	—	—
24	INIT B	Mode Select B	I	4.8	4.8	4.8
25	INIT A	Mode Select A	I	4.8	4.8	4.8
26	SD FM	FM SD Input	I	0	0	0
27	SD AM	AM SD Input	I	0	0	0
28	AMIFC (NC)	(Connect to Ground)	—	—	—	—
29	FMIFC	FM IF Input	I	5.1	0	0
30	VDD	Power supply +5V	—	4.8	4.8	4.8
31	FM/AM OSC	FM OSC Input	I	2.6	2.6	0
32	WB OSC (NC)	—	—	—	—	—
33	GND	Ground	—	0	0	0
34	E01	FM /AM VT Output	O	1.4	1.4	1.4
35	E02 (NC)	—	—	—	—	—
36	(NC)	—	—	—	—	—
37	MONO (NC)	—	—	—	—	—
38	LOC (NC)	—	—	—	—	—
39	BEEP1 (NC)	—	—	—	—	—
40	BEEP2 (NC)	—	—	—	—	—

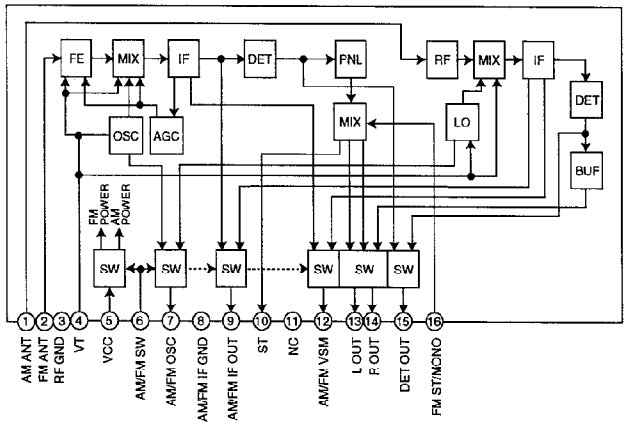
Pin No.	Name	Description	I/O	Vol.(V) AM	FM	TAPE
41	CD CLK2 (NC)	—	—	—	—	—
42	CDC STB	CD changer Strobe	I	0	0	0
43	T IN/T EXIST	Tape-in Switch Signal	I	0	0	0
44	A/B	—	—	—	—	—
45	DET SENS	—	—	—	—	—
46	F/R	Foward/Reverse Select	O	0.5	0.5	4.7
47	PW CNT	System Power Control	O	4.7	4.7	4.7
48	SYS CNT	AMP ST-BY Control	O	4.7	4.7	4.7
49	MUTE	Mute Control	O	4.7	4.7	4.7
50	PL ON (NC)	—	—	—	—	—
51	HDB ON (NC)	—	—	—	—	—
52	(NC)	—	—	—	—	—
53	CDC SELECT (NC)	—	—	—	—	—
54	AUX (NC)	—	—	—	—	—
55	LED	Alarm LED Output	O	0	0	0
56	LCD CLK	LCD Clock	O	4.4	4.4	4.4
57	LCD DI (MO)	LCD Data Input	O	4.4	4.4	4.4
58	LCD CE	LCD Chip Enble	O	0	0	0
59	LCD DO (MI)	LCD Data Output	I	3.8	3.8	3.8
60	(NC)	—	—	—	—	—
61	(NC)	—	—	—	—	—
62	REMOUT	Remote Data Output	O	4.8	4.8	4.8
63	I2C DATA	I2C Data	I	5.1	5.1	5.1
64	I2C CLK	I2C Clock	O	5.1	5.1	5.1
65	CDC CLK	CD Changer Clock	I	0	0	0
66	MOTOR ANT (NC)	—	—	—	—	—
67	CDC DATA	CD Changer Data	I	0	0	0
68	MODE3 (NC)	—	—	—	—	—
69	NC	—	—	—	—	
70	MODE1 (NC)	—	—	—	—	—
71	SMT-R (NC)	—	—	—	—	—
72	SMT-F (NC)	—	—	—	—	—
73	TELMUTE	(+5V Pull Up)	—	—	—	—
74	VTER (NC)	—	—	—	—	—
75	GND	Ground	—	0	0	0
76	X OUT	Crystal Osciator	O	2.2	2.2	2.2
77	XIN	Crystal Osciator	I	2.0	2.0	2.3
78	CE	Chip Enable	I	4.8	4.8	4.8
79	VDD	Power supply +5V	—	4.8	4.8	4.8
80	RESET	Reset input	I	4.8	4.8	4.8

■ IC901 YEAMSM6786Q

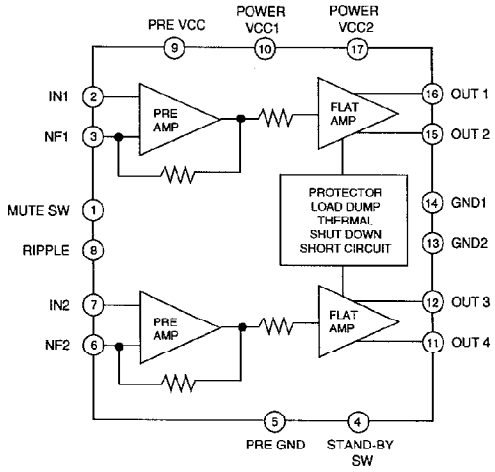
Pin No.	Name	Description	I/O	Vol.(V)
1	SEG1 (NC)	—	—	—
2	SEG2	LCD segment data 2	O	2.6
3	SEG3	LCD segment data 3	O	2.6
4	SEG4	LCD segment data 4	O	2.6
5	SEG5	LCD segment data 5	O	2.6
6	SEG6	LCD segment data 6	O	2.6
7	SEG7	LCD segment data 7	O	2.6
8	SEG8	LCD segment data 8	O	2.6
9	SEG9	LCD segment data 9	O	2.6
10	SEG10	LCD segment data 10	O	2.6
11	SEG11	LCD segment data 11	O	2.6
12	SEG12	LCD segment data 12	O	2.6
13	SEG13	LCD segment data 13	O	2.6
14	SEG14	LCD segment data 14	O	2.6
15	SEG15	LCD segment data 15	O	2.6
16	SEG16	LCD segment data 16	O	2.6
17	SEG17	LCD segment data 17	O	2.6
18	SEG18	LCD segment data 18	O	2.6
19	SEG19	LCD segment data 19	O	2.6
20	SEG20	LCD segment data 20	O	2.6
21	VDD2	+5V Power Supply	—	5.1
22	SEG21	LCD segment data 21	O	2.6
23	SEG22	LCD segment data 22	O	2.6
24	SEG23	LCD segment data 23	O	2.6
25	SEG24	LCD segment data 24	O	2.6
26	SEG25	LCD segment data 25	O	2.6
27	SEG26	LCD segment data 26	O	2.6
28	SEG27	LCD segment data 27	O	2.6
29	SEG28 (NC)	—	—	—
30	SEG29 (NC)	—	—	—
31	C0	Key Control 0	O	5.1
32	C1	Key Control 1	O	5.1
33	C2	Key Control 2	O	5.1
34	C3	Key Control 3	O	5.1
35	C4	Key Control 4	O	5.1
36	C5 (NC)	—	—	—
37	R0	Key Return 0	I	4.1
38	R1	Key Return 1	I	4.1
39	R2	Key Return 2	I	4.1
40	R3	Key Return 3	I	4.1
41	R4	Key Return 4	I	4.1
42	LOAD	LCD LS Chip Enable	I	4.1
43	CLK	LCD Clock	I	4.3
44	DI	LCD Data Input	I	4.3
45	INT	LCD Data Output	O	3.6
46	RESET	Reset	I	5.0
47	LED	LED Control	O	4.8
48	3/4 SEL	(+5v Pull-up)	—	5.1
49	VDD1	+5v Power Supply	—	2.5
50	OSC	CR Osciator	—	2.2
51	VSS	Ground	—	0
52	TEST	(Connecting to ground)	—	0
53	COM4 (NC)	—	—	—
54	COM3	LCD Common 3	O	2.5
55	COM2	LCD Common 2	O	2.5
56	COM1	LCD Common 1	O	2.5

PACKAGE AND IC BLOCK DIAGRAM

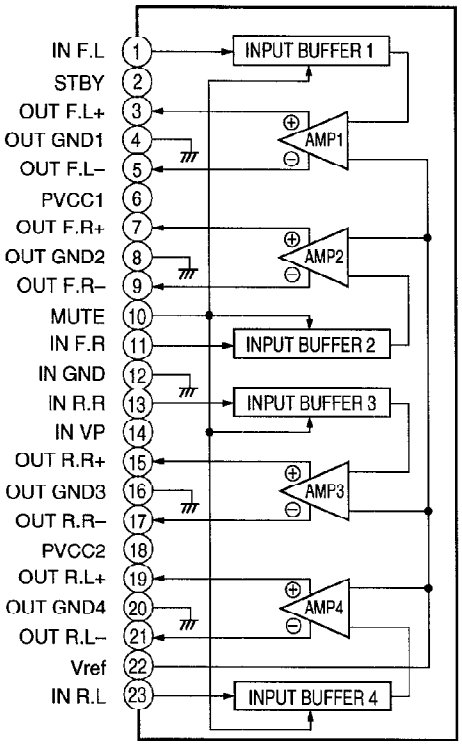
■ P50 CT-T02 [E-4C165]



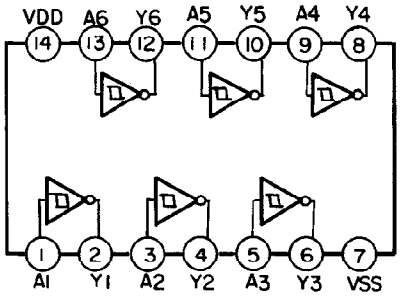
■ IC200 YEAMLA3161 [E-4C165]



■ IC270 YEAMHA13158A [E-4C165]



■ IC602 YEAMTC4584FN [E-4C165]



1 Replacement Parts List

Note:

1. Be sure to make your orders of replacement parts according to this list.
2. Important safety notice: Components, identified by ⚠ mark have special characteristics important for safety. When replacing any of these components, use only manufacturer's specified parts.
3. Location keys in the remarks column indicates the general location of the parts shown in the exploded drawing, as in a load map.
4. The marking (RTL) indicates that Retention Time is limited for this item. After the discontinuation of assembly in production, the item will continue to be availability is dependent on the type of assembly, and in accordance with the laws governing part and product retention. After the end of this period, the assembly will no longer be available.
5. "T" marks in remarks column are indicated supply parts of TAMACO.

1.1. IC's and Transistors

MAIN BLOCK [E-4C165]

Ref. No.	Part No.	Part Name & Description	Remarks
IC200	YEAMLA3161	IC	
IC205	YEAMTDA7313D	IC	T
IC270	YEAMHA13158A	IC	T
IC601	YEAM17708591	IC	T
IC602	YEAMTC4584FN	IC	T
P50	CT-T02	FM/AM Tuner Pack	T
Q51	YEANDTC144ST	Transistor	
Q241	YEANC143TKT	Transistor	
Q341	YEANC143TKT	Transistor	
Q401	YEAN2SK503	Transistor	
Q610	YEANC114YST	Transistor	
Q630	YEANDTA144ST	Transistor	
Q703	YEANC114YST	Transistor	
Q706	YEANA123YST	Transistor	
Q707	YEANB123YST	Transistor	
Q708	YEAN2SD1020T	Transistor	
Q710	YEANB1243QRT	Transistor	
Q711	YEANC114YST	Transistor	
Q715	YEAN2SD1020T	Transistor	
Q718	YEANA144EKT	Transistor	
Q719	YEANC144EKTX	Transistor	
Q800	YEAND1762EF	Transistor	

DISPLAY BLOCK [E-4C163]

Ref. No.	Part No.	Part Name & Description	Remarks
IC901	YEAMSM6786Q	IC	T

1.2. Diodes

MAIN BLOCK [E-4C165]

Ref. No.	Part No.	Part Name & Description	Remarks
D50	YEAD1N4148C	Diode	T
D401	YEADMTZ10CT	Diode	T
D603	YEAD1N4148C	Diode	T
D606	YEAD1N4148C	Diode	T
D607	YEAD1N4148C	Diode	T
D701	YEAD1N5404FT	Diode	T
D702	YEAD1N4005T	Diode	T
D703	YEAD1N4005T	Diode	T
D706	YEADSLB24VR3	LED (Red)	T
D708	MA700TA	Diode	T
D710	YEAD1N4148C	Diode	T
D602	YEADMTZ82BT	Zener Diode	T
D704	YEADMTZ91BT	Zener Diode	T
D705	YEADRD51JS3T	Zener Diode	
D709	YEADRD56JS3T	Zener Diode	T
D712	YEADRD51JS3T	Zener Diode	
D713	YEADMTZ75BT	Zener Diode	T
D752	YEADMTZJ51CT	Zener Diode	T

DISPLAY BLOCK [E-4C163]

Ref. No.	Part No.	Part Name & Description	Remarks
D902	SLN210VCT12	LED (Red)	T
D911	ZMM5232B5V6	Zener Diode	T
D912	ZMM5232B5V6	Zener Diode	T
D913	ZMM5232B5V6	Zener Diode	T
D914	ZMM5232B5V6	Zener Diode	T
D921	SLN210MCT12	LED (Green)	T
D922	SLN210MCT12	LED (Green)	T

1.3. Capacitors

MAIN BLOCK [E-4C165]

Ref. No.	Part No.	Part Name & Description	Remarks
C51	ECEA1CKS470I	Electrolytic,47μF 16WV	
C52	ECUV1H103KBN	Ceramic,0.01μF 50WV	T
C53	ECUV1H103KBN	Ceramic,0.01μF 50WV	T
C54	ECUV1H103KBN	Ceramic,0.01μF 50WV	T
C57	ECUV1H223KBN	Ceramic,0.022μF 50WV	T
C58	ECUV1H223KBN	Ceramic,0.022μF 50WV	T
C60	ECUV1H103KBN	Ceramic,0.01μF 50WV	T
C201	ECUV1H122KBN	Ceramic,1200pF 50WV	T
C202	ECEA0JKS101	Electrolytic,100μF 6.3WV	
C203	ECEA1HKS010I	Electrolytic,1μF 50WV	
C204	ECUV1H273KBN	Ceramic,0.027μF 50WV	T
C232	ECEA1CKS100I	Electrolytic,10μF 16WV	
C233	ECEA1HKS2R2I	Electrolytic,2.2μF 50WV	
C234	ECUV1H104KBN	Ceramic,0.1μF 50WV	T
C237	ECUV1H104KBN	Ceramic,0.1μF 50WV	T
C238	ECUV1H272KBN	Ceramic,2700pF 50WV	T
C239	ECEA1EKS3R3I	Electrolytic,3.3μF 25WV	
C240	ECEA1EKS3R3I	Electrolytic,3.3μF 25WV	
C241	ECEA1HKS010I	Electrolytic,1μF 50WV	
C242	ECEA1HKS010I	Electrolytic,1μF 50WV	
C249	ECUV1H222KBN	Ceramic,2200pF 50WV	T
C250	ECUV1H222KBN	Ceramic,2200pF 50WV	T
C253	ECEA1CKS100I	Electrolytic,10μF 16WV	
C259	ECUV1H103KBN	Ceramic,0.01μF 50WV	T
C279	ECEA1CKS010I	Electrolytic,1μF 16WV	T
C301	ECUV1H122KBN	Ceramic,1200pF 50WV	T
C302	ECEA0JKS101	Electrolytic,100μF 6.3WV	
C303	ECEA1HKS010I	Electrolytic,1μF 50WV	
C304	ECUV1H273KBN	Ceramic,0.027μF 50WV	T
C308	ECEA1CKS101I	Electrolytic,100μF 16WV	
C325	ECEA0JK0101	Electrolytic,100μF 6.3WV	
C332	ECEA1CKS100I	Electrolytic,10μF 16WV	
C333	ECEA1HKS2R2I	Electrolytic,2.2μF 50WV	
C334	ECUV1H104KBN	Ceramic,0.1μF 50WV	T
C337	ECUV1H104KBN	Ceramic,0.1μF 50WV	T
C338	ECUV1H272KBN	Ceramic,2700pF 50WV	
C339	ECEA1EKS3R3I	Electrolytic,3.3μF 25WV	
C340	ECEA1EKS3R3I	Electrolytic,3.3μF 25WV	
C341	ECEA1HKS010I	Electrolytic,1μF 50WV	
C342	ECEA1HKS010I	Electrolytic,1μF 50WV	
C349	ECUV1H222KBN	Ceramic,2200pF 50WV	T
C350	ECUV1H222KBN	Ceramic,2200pF 50WV	T
C353	ECEA1CKS100I	Electrolytic,10μF 16WV	
C401	ECEA1VSN4R7I	Electrolytic,4.7μF 35WV	T
C402	ECEA1AKS101I	Electrolytic,100μF 10WV	
C403	ECUV1H103KBN	Ceramic,0.01μF 50WV	T
C408	ECUV1H102KBN	Ceramic,0.001μF 50WV	T
C600	ECUV1H104KBN	Ceramic,0.1μF 50WV	T
C601	ECUV1H220JC	Ceramic,22PF 50WV	T

Ref. No.	Part No.	Part Name & Description	Remarks
C602	ECUV1H220JC	Ceramic,22PF 50WV	T
C608	ECUV1H103KBN	Ceramic,0.01μF 50WV	T
C610	ECEA1CKS100I	Electrolytic,10μF 16WV	
C611	ECEA0JKS331I	Electrolytic,330μF 6.3WV	
C612	ECEA0JKS331I	Electrolytic,330μF 6.3WV	
C613	ECEA0JKS331I	Electrolytic,330μF 6.3WV	
C630	ECEA0JKS470I	Electrolytic,47μF 6.3WV	
C631	ECEA1CKS100I	Electrolytic,10μF 16WV	
C701	ECEA0JKS101	Electrolytic,100μF 6.3WV	
C707	ECEA1AKS221I	Electrolytic,220μF 10WV	
C708	ECEA1AKS221I	Electrolytic,220μF 10WV	
C709	ECEA1CKS101I	Electrolytic,100μF 16WV	
C715	ECEA0JKS101	Electrolytic,100μF 6.3WV	
C717	ECEA1CKS100I	Electrolytic,10μF 16WV	
C718	ECEA1HKS010I	Electrolytic,1μF 50WV	
C720	ECEA1CU332C	Electrolytic,3300μF 16WV	T
C721	ECEA1AKS470I	Electrolytic,47μF 10WV	
C722	ECUV1H103KBN	Ceramic,0.01μF 50WV	T
C751	ECEA1CKS100I	Electrolytic,10μF 16WV	
C755	ECEA1CKS470I	Electrolytic,47μF 16WV	

DISPLAY BLOCK [E-4C163]

Ref. No.	Part No.	Part Name & Description	Remarks
C901	ECUV1H104KBN	Ceramic,0.1μF 50WV	T
C902	ECUV1H104ZFN	Ceramic,0.1μF 50WV	T

1.4. Resistors

MAIN BLOCK [E-4C165]

Ref. No.	Part No.	Part Name & Description	Remarks
R50	ERJ6GEYJ5R6	Chip,5.6Ω 1/10W	
R51	ERJ6GEYJ472	Chip,4.7kΩ 1/10W	
R52	ERJ6GEYJ223	Chip,22kΩ 1/10W	
R53	ERJ6GEYJ221	Chip,220Ω 1/10W	
R54	ERJ8GEYJ103V	Chip,10kΩ 1/8W	
R55	ERDS2TJ102	Carbon,1kΩ 1/4W	
R56	ERJ8GEYJ103V	Chip,10kΩ 1/8W	
R58	ERJ6GEYJ473	Chip,47kΩ 1/10W	
R59	ERJ6GEYJ822	Chip,8.2kΩ 1/10W	
R201	ERJ6GEYJ333	Chip,33kΩ 1/10W	
R202	ERJ6GEYJ330	Chip,33Ω 1/10W	
R203	ERJ6GEYJ472	Chip,4.7kΩ 1/10W	
R204	ERJ6GEYJ124	Chip,120kΩ 1/10W	
R225	ERD25TJ822	Carbon,8.2kΩ 1/4W	
R226	ERJ6GEYJ332	Chip,3.3kΩ 1/10W	
R241	ERJ6GEYJ103	Chip,10kΩ 1/10W	
R243	ERJ6GEYJ471	Chip,470Ω 1/10W	
R250	ERJ6GEYJ562	Chip,5.6kΩ 1/10W	
R253	ERD25TJ562	Carbon,5.6kΩ 1/4W	
R263	ERJ6GEYJ101	Chip,100Ω 1/10W	
R271	ERD25TJ561	Carbon,560Ω 1/4W	
R272	ERD25TJ561	Carbon,560Ω 1/4W	
R281	ERJ6GEYJ562	Chip,5.6kΩ 1/10W	
R282	ERJ6GEYJ562	Chip,5.6kΩ 1/10W	
R301	ERJ6GEYJ333	Chip,33kΩ 1/10W	
R302	ERJ6GEYJ330	Chip,33Ω 1/10W	
R303	ERJ6GEYJ472	Chip,4.7kΩ 1/10W	
R304	ERJ6GEYJ124	Chip,120kΩ 1/10W	
R309	ERJ8GEYJ221V	Chip,220Ω 1/8W	
R325	ERD25TJ822T	Carbon,8.2kΩ 1/4W	
R326	ERJ6GEYJ332	Chip,3.3kΩ 1/10W	
R338	ERD25TJ102	Carbon,1kΩ 1/4W	
R339	ERD25TJ102	Carbon,1kΩ 1/4W	
R341	ERJ6GEYJ103	Chip,10kΩ 1/10W	
R343	ERJ6GEYJ471	Chip,470Ω 1/10W	
R350	ERJ6GEYJ562	Chip,5.6kΩ 1/10W	
R353	ERD25TJ562	Carbon,5.6kΩ 1/4W	
R363	ERJ6GEYJ101	Chip,100Ω 1/10W	
R371	ERD25TJ561	Carbon,560Ω 1/4W	
R372	ERD25TJ561	Carbon,560Ω 1/4W	
R381	ERJ6GEYJ562	Chip,5.6kΩ 1/10W	
R382	ERJ6GEYJ562	Chip,5.6kΩ 1/10W	

Ref. No.	Part No.	Part Name & Description	Remarks
R401	ERJ8GEYJ472V	Chip,4.7kΩ 1/8W	
R404	ERDS2TJ152	Carbon,1.5kΩ 1/4W	
R405	ERJ8GEYJ152V	Chip,1.5kΩ 1/8W	
R406	ERDS2TJ152	Carbon,1.5kΩ 1/4W	
R407	ERJ6GEYJ471	Chip,470Ω 1/10W	
R408	ERDS2TJ181	Carbon,180Ω 1/4W	
R601	ERJ8GEYJ473V	Chip,47kΩ 1/8W	
R603	ERJ6GEYJ473	Chip,47kΩ 1/10W	
R604	ERJ8GEYJ473V	Chip,47kΩ 1/8W	
R606	ERD25TJ102	Carbon,1kΩ 1/4W	
R607	ERJ6GEYJ473	Chip,47kΩ 1/10W	
R615	ERD25TJ473	Carbon,47kΩ 1/4W	
R616	ERDS2TJ473	Carbon,47kΩ 1/4W	
R617	ERDS2TJ473	Carbon,47kΩ 1/4W	
R618	ERDS25TJ102	Carbon,1kΩ 1/4W	T
R621	ERJ6GEYJ103	Chip,10kΩ 1/10W	
R623	ERJ6GEYJ563	Chip,56kΩ 1/10W	
R624	ERJ6GEYJ473	Chip,47kΩ 1/10W	
R626	ERJ6GEYJ472	Chip,4.7kΩ 1/10W	
R629	ERJ6GEYJ473	Chip,47kΩ 1/10W	
R630	ERD25TJ102	Carbon,1kΩ 1/4W	
R636	ERJ6GEYJ103	Chip,10kΩ 1/10W	
R637	ERJ6GEYJ103	Chip,10kΩ 1/10W	
R638	ERJ6GEYJ472	Chip,4.7kΩ 1/10W	
R642	ERDS2TJ822	Carbon,8.2kΩ 1/4W	
R643	ERJ8GEYJ223V	Chip,22kΩ 1/8W	
R646	ERJ6GEYJ102	Carbon,1kΩ 1/4W	
R648	ERJ6GEYJ473	Chip,47kΩ 1/10W	
R654	ERJ6GEYJ473	Chip,47kΩ 1/10W	
R655	ERJ8GEYJ473V	Chip,47kΩ 1/8W	
R656	ERJ6GEYJ473	Chip,47kΩ 1/10W	
R695	ERD25TJ102	Carbon,1kΩ 1/4W	
R696	ERD25TJ102	Carbon,1kΩ 1/4W	
R697	ERD25TJ102	Carbon,1kΩ 1/4W	
R698	ERD25TJ102	Carbon,1kΩ 1/4W	
R705	ERJ6GEYJ331	Chip,330Ω 1/10W	
R721	ERD25FJ5R6	Carbon,5.6Ω 1/4W	
R722	ERD25TJ331	Carbon,330Ω 1/4W	
R723	ERD25FJ5R6	Carbon,5.6Ω 1/4W	
R725	ERJ8GEYJ221V	Chip,220Ω 1/8W	
R727	ERJ8GEYJ473V	Chip,47kΩ 1/8W	
R728	ERD25TJ681	Carbon,680Ω 1/4W	
R729	ERD25TJ681	Carbon,680Ω 1/4W	
R736	ERJ6GEYJ105	Chip,1000kΩ 1/10W	
R737	ERJ6GEYJ472	Chip,4.7kΩ 1/10W	
R738	ERJ8GEYJ330V	Chip,33Ω 1/8W	
R739	ERJ8GEYJ562V	Chip,5.6kΩ 1/8W	
R740	ERD25TJ472	Carbon,4.7kΩ 1/4W	
R751	ERD25FJ2R7	Carbon,2.7Ω 1/4W	
R752	ERJ6GEYJ103	Chip,10kΩ 1/10W	

DISPLAY BLOCK [E-4C163]

Ref. No.	Part No.	Part Name & Description	Remarks
R901	ERJ6GEYJ103	Chip, 10kΩ 1/10W	
R902	ERJ8GEYJ331V	Chip, 330Ω 1/8W	
R903	ERJ6GEYJ102	Chip, 1kΩ 1/10W	
R904	ERJ6GEYJ102	Chip, 1kΩ 1/10W	
R905	ERJ8GEYJ102V	Chip, 1kΩ 1/8W	
R907	ERJ8GEYJ100V	Chip, 10Ω 1/8W	
R908	ERJ8GEYJ103V	Chip, 10kΩ 1/8W	
R909	ERJ6GEYJ102	Chip,1kΩ 1/10W	
R921	ERJ6GEYJ391	Chip, 390Ω 1/10W	

1.5. Connectors

MAIN BLOCK [E-4C165]

Ref. No.	Part No.	Part Name & Description	Remarks
CN210	YEAE2011P05	Connector	T
CN350	YEAE02166	Connector, RCA × 4	
CN503	YEAE4C01083	Connector	T
CN601	YEAE012475	Connector	
CN680	YEAE4CDIN023	Connector	T

Ref. No.	Part No.	Part Name & Description	Remarks
CN701	YEAE4CCON013	Connector	T
CN751	YEAE2011P06	Connector	T
CP503	YEAE4C1084	Connector	T

DISPLAY BLOCK [E-4C163]

Ref. No.	Part No.	Part Name & Description	Remarks
CN901	YEAE012476	Connector	

1.6. Electric Parts

SWITCHES

Ref. No.	Part No.	Part Name & Description	Remarks
SW901	EVQPJH05K	SWITCH	
SW902	EVQPJJ04T	SWITCH	
SW903	YEAS094C020	SWITCH	T
SW904	YEAS094C020	SWITCH	T
SW905	YEAS094C020	SWITCH	T
SW906	EVQPJH05K	SWITCH	
SW907	EVQPJJ04T	SWITCH	
SW908	YEAS094C020	SWITCH	T
SW909	EVQPJJ04T	SWITCH	
SW910	EVQPJJ04T	SWITCH	
SW911	EVQPJH05K	SWITCH	
SW912	EVQPJJ04T	SWITCH	
SW913	EVQPJJ04T	SWITCH	
SW915	EVQPJJ04T	SWITCH	
SW917	EVQPJJ04T	SWITCH	
SW918	EVQPJJ04T	SWITCH	

CRYSTAL

Ref. No.	Part No.	Part Name & Description	Remarks
XL601	YEXL4C45TT	Crystal	T

COILS

Ref. No.	Part No.	Part Name & Description	Remarks
L101	YELT02C470K	Axial coil	
L700	YETQ024C035	Choke Coil	T

LCD

Ref. No.	Part No.	Part Name & Description	Remarks
LCD901	YEXDCM4C071	LCD	T

LAMP

Ref. No.	Part No.	Part Name & Description	Remarks
PL901	YEAL01222	Lamp	
PL902	YEAL01222	Lamp	
PL903	YEAL01222	Lamp	

POSISTOR

Ref. No.	Part No.	Part Name & Description	Remarks
PT701	YERT7AR4R7MT	Posistor	

1.7. Accessories

PRINTING

Ref. No.	Part No.	Part Name & Description	Remarks
	YFM284C281ZA	Operating Instructions	T

INSTALLATION PARTS

Ref. No.	Part No.	Part Name & Description	Remarks
	YAJ024C062ZA	Power Cord Ass'y	T
	ZZBISR115	Screw Kit and Dismounting Pin	T
	YEFG044C002	Rear Support Strap	T
	YFC054C048ZA	Panel Case	T

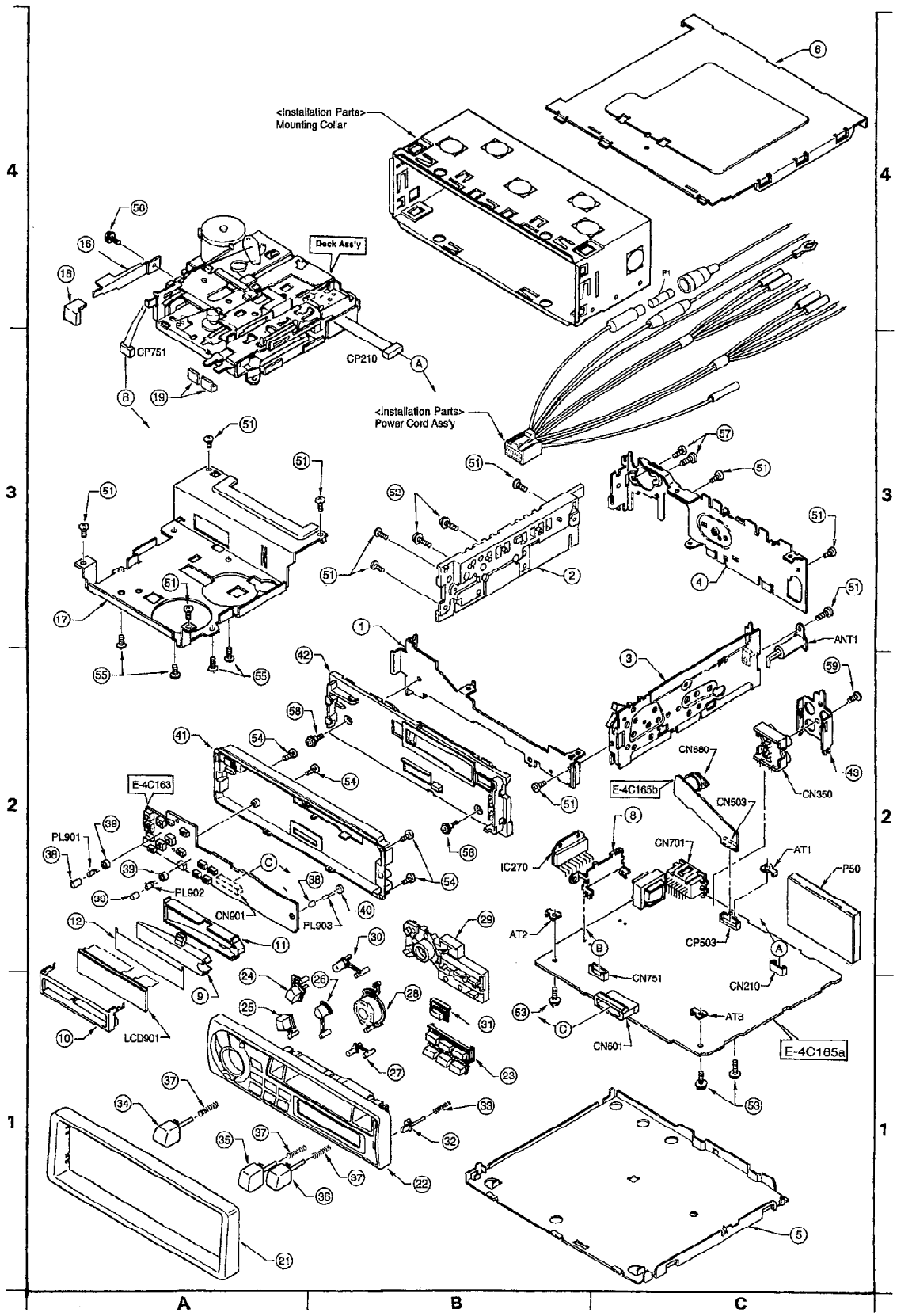
1.8. Mechanical Parts

MISCELLANEOUS

Ref. No.	Part No.	Part Name & Description	Remarks
F1 ⚠	XBB1F100NS5	Fuse, 10A	
ANT1	YAA104C700ZA	Antenna Jack	T
Z52	YEADSPD201M	Surge Protector	T
AT1	YEAT03420	Terminal	
AT2	YEAT03420	Terminal	
AT3	YEAT03420	Terminal	
1	YFA074C027YA	Front Plate	T(3-B)
2	YFF014C032XA	Heat Sink	T(3-B)
3	YFA094C080ZA	Right Plate Ass'y	T(2-C)
4	YFA084C022ZA	Rear Plate	T(3-C)
5	YFA054C026YF	Under Cover	T(1-C)
6	YFA034C031ZC	Upper Cover	T(4-C)
8	FX0214C172XA	IC Bracket	T(2-C)
9	FX0014C047ZA	Panel Light	T(1-A)
10	FX0214C213ZA	LCD Bracket	T(1-A)
11	YFX184C013ZA	LCD Holder	T(2-A)
12	YFV024C039ZA	Sheet, LCD	T(2-A)
16	YFX464C011ZA	Eject Lever	T(4-A)
17	FX0214C188YA	Deck Bracket	T(3-A)
18	YFE134C148ZA	Eject Lever Holder	T(4-A)
19	YFE134C149ZA	Lever Holder	T(3-A)
21	YGFC05545	Trim Plate	(1-A)
22	YFC024C427ZA	Escutcheon Ass'y, Detachable	T(1-B)
23	YFE134C240ZA	Button (1-6)	T(1-B)
24	YFE134C249ZA	Button (UP)	T(1-A)
25	YFE134C250ZA	Button (DOWN)	T(1-A)
26	YFE134C252ZA	Button (SEL)	T(1-B)
27	YFE134C242ZA	Button (PWR)	T(1-B)
28	YFE134C248ZA	Button (CLOCK/BAND)	T(1-B)
29	FX0014C050ZA	Panel Light	T(2-B)
30	YFE134C262ZA	Button (M/L)	T(2-B)
31	YFE134C241ZA	Button (CD.C)	T(1-B)
32	YFE134C194ZA	Release Button	T(1-B)
33	FX0054C027ZA	Spring	T(1-B)
34	YFE134C257ZA	Button (EJECT)	T(1-A)
35	YFE134C258ZA	Button (REW)	T(1-A)
36	YFE134C259ZA	Button (FF)	T(1-B)
37	FX0054C028ZA	Spring	T(1-A) (1-B)
38	YEFR04134	Illumination Cap	(2-A) (2-B)
39	YEFK044C007	Lamp Gum	T(2-A)
40	YFK044C011ZA	Lamp Holder	T(2-B)
41	YFC024C414ZA	Rear Cover	T(2-A)
42	YFC024C430ZA	Escutcheon Ass'y, Unit	T(2-A)
43	FX0214C187YA	RCA Jack Bracket	T(2-C)
51	XTB3+6FFXS	Screw	
52	YEJT034C019	Screw (Cup Tight), 3mm x 12mm	T(3-B)
53	YEJT034C001	Screw	T(1-B) (1-C)
54	XTN2+6CFZ	Screw	T(2-A) (2-B)
55	XSB26+4FX	Screw	(2-A)
56	YEJT034C007	Screw	T(4-A)
57	XSB3+6FXS	Screw	(3-C)
58	YJT034C015Z	Step Screw	T(2-A) (2-B)
59	XTW3+10C	Screw	T(2-C)

EXPLODED VIEW (UNIT) MODEL CQ-R155EW

■ Numbers in ○ are indicated REF.No. in the REPLACEMENT PARTS LIST



2 Tape Player Parts List

Note:

1. Be sure to make your orders of replacement parts according to this list.
2. Important safety notice: Components, identified by ⚠ mark have special characteristics important for safety. When replacing any of these components, use only manufacturer's specified parts.
3. Location keys in the remarks column indicates the general location of the parts shown in the exploded drawing, as in a load map.
4. "T" marks in remarks column are indicated supply parts of TAMACO.

MISCELLANEOUS

Ref. No.	Part No.	Part Name & Description	Remarks
1	X0036-1001	Main Chassis Ass'y	T(2-B)
2	X0036-6082	Head Plate Ass'y	T(3-B)
3	X0036-1009	Reel Base Ass'y	T(1-A)
4	X0036-1010	FR Changing Arm Ass'y	T(3-B)
6	X0036-1019	Eject Cam Lock Ass'y	T(3-A)
7	X0036-6077	Lever Bracket Ass'y	T(3-C)
10	X0036-1025	FR Arm (B) Ass'y	T(1-B)
11	X0138-2006	CM Bracket Ass'y	T(3-B)
12	10036-60011	Flywheel Ass'y (F)	T(1-C)
13	10138-6002	Pinch Arm (R) Ass'y	T(2-B)
14	10138-6003	Pinch Arm (F) Ass'y	T(2-C)
15	X0036-6080	Reel Spindle Ass'y	T(1-A) (1-B)
16	10036-60010	Flywheel Ass'y (R)	T(1-C)
19	10138-1010	Cassette Holder	T(3-A)
20	10036-1006	Eject Cam	T(2-A)
21	10036-1046	Eject Lever (S)	T(2-A)
22	10138-1002	Cassette Hanger	T(3-A)
23	10036-1015	SPG Support Plate	T(4-B)
24	10036-1016	Conversion Lever	T(1-B)
25	10138-1006	Adjuster Shim	T(3-B)
26	10036-1018	Center Plate	T(4-A)
27	10036-1013	Lock Arm	T(3-C)
28	10036-1023	Change Lever (B)	T(3-C)
29	10036-1026	FR Arm (B)	T(1-B)
30	10036-1004	FF Lever (AT)	T(4-C)
31	10036-1005	Rew Lever (AT)	T(3-C)
35	10036-2001	Idle Gear	T(2-A)
37	10036-20040	Reduction Gear (A)	T(2-A)
38	10036-2003	Reduction Gear (B)	T(2-A)
39	10036-20050	Pulley Gear	T(2-B)
40	10038-2018	Tape Guide	T(3-B)
41	10036-2007	Ratchet	T(2-A)
42	10036-2008	FF Arm	T(1-B)
43	10036-2009	Sensor Arm	T(2-A)
44	10036-2010	Selector Gear	T(2-A)
45	10138-20053	Adjuster Arm	T(4-B)
46	10138-2004	Adjuster Link	T(3-B)
47	10038-2014	Gear Lock Arm	T(2-A)
48	10036-2014	Detector Gear	T(1-A)
49	X0036-2015	TU Gear Arm Ass'y	T(3-C)
50	X0136-2001	Detector Cam Ass'y	T(1-A) (1-B)
51	10038-2034	Mute Arm (N)	T(3-A)
52	10058-2004	Tape Hooker	T(3-A)
53	10058-20215	Idle Pulley (A)	T(2-B)
57	10036-3024	HP Roller (B)	T(3-B)
58	10036-3032	FF Roller (A)	T(4-B)
59	10036-3018	Collar (Selector Gear)	T(2-A)
60	10036-3002	HP Roller (A)	T(3-B)
62	10038-3012	Program Roller	T(3-C)
63	10038-3015	Mute Arm Collar	T(3-A)
64	10036-4001	FF/Rew Lever SPG	T(3-C) (4 C)
65	10036-4022	Lock Lever SPG (A)	T(3-C)
66	10036-4003	Gear Lock Arm SPG	T(2-A)
67	10036-4004	Eject Lever SPG	T(2-A)
68	10036-4005	Eject CamSPG	T(2-A)
69	10036-4006	Head Plate SPG	T(3-B)
70	10036-4007	Eject Cam Lock SPG	T(4-A)
71	10036-4008	Program Arm SPG	T(3-C)
72	10036-4010	Adjuster Arm SPG (A)	T(4-B)
73	10036-4011	Adjuster Arm SPG (B)	T(4-B)
74	10036-4012	Pinch Arm SPG (F)	T(2-C)
75	10036-4013	Pinch Arm SPG (R)	T(2-B)
76	10038-4014	Ratchet SPG	T(2-A)
77	10036-4015	Dash SPG	T(1-A)
78	10058-4023	Tambler SPG (B)	T(4-A)
79	10036-4017	Changing Arm SPG	T(3-C)
80	10036-4018	Earth SPG (R)	T(2-B)
82	10036-4032	Back Tension SPG (MH)	T(1-A) (1-B)
85	10036-5018	Sub Belt (C)	T(2-B)
86	10138-5001	Selector Link	T(3-C)
87	10036-5004	Main Belt	T(1-C)
89	10036-5006	Return Link	T(4-A)
92	X0036-6075	Motor Ass'y	T(4-B)
94	10036-7001	SW PWB	T(2-C)
95	10036-7002	Wire (A) Black 60mm	T(2-C)
96	10036-7003	Wire (B) Red 60mm	T(2-C)
97	10036-7004	Wire (C) Yellow 55mm	T(2-C)
98	10036-7005	Head	T(4-B)
99	10036-7034	Power SW	T(2-B)
100	10036-7007	Slide SW	T(2-C)
101	10138-7002	Mute PWB	T(2-C)
102	10138-7087	Mute SW	T(2-B)
105	21711-504016	E-Ring 1.5mm	T
106	21711-603296	E-Ring 1.6×3.2	T(3-B)
107	21712-005016	E-Ring 2mm	T
108	21712-506016	E-Ring 2.5mm	T
109	21331-7030C2	Machine Screw S-Type Plain #3 M1.7×3	T(3-B)
111	21812-0030D2	PSW-S 1.2×3.0×t0.25	T
112	10036-5019	Reel PSW	T(1-A) (1-B)
113	21821-0032D1	PSW	T(3-B)
114	21331-7040C2	+Machine Screw S-Type Plain #3 M1.7×4	T(3-C)
116	21331-7060C2	+Machine Screw S-Type Plain #3 M1.7×6	T(2-B)
117	21382-0030C2	+Machine Screw B-Type Plain #3 M2×3	T
118	21362-0040F2	+Machine Screw B-Type Flat #1 M2×4	T(3-A)
119	21332-0040C1	+Machine Screw S-Type Plain #3 M2×4	T(3-C)
120	21032-0070C2	+Machine Screw Plain #3 M2×7	T(3-B)
121	21032-0025C2	+Machine Screw Plain #3 M2×2.5	T(3-B)
122	21012-0040C2	+Machine Screw Plain #1 M2×4	T(4-B)
123	21012-0030F2	+Machine Screw Flat #1 M2×3	T(2-C)
124	10138-5002	Azimuth Screw Plain #1 P0.25 M2×5	T(4-B)
125	10036-5005	Eject Hook Screw M2×5	T(2-B)
126	10136-5001	LMW (Rew) 2.1×3.5×t0.05	T(1-A) (1-B)
127	10036-5024	PSW (Reel)B 1.5×3.2×t0.25	T

EXPLODED VIEW (Tape Deck) MODEL CQ-R155EW

■ Numbers in ○ are indicated REF.No. in the REPLACEMENT PARTS LIST